



NITE-TIMES NEWS

Chicago Area Timex Users Group
Volume 4, Number 1

Downers Grove, Illinois
January/February 1990

ROUTINES	MEMORY MAP	ADDRESS
CATUG Club Officers		0
NITE-TIMES Information		1
NITE-TIMES NEWS Contributions		1
Contributors to this Issue		1
Club Meetings		1
DATA INTERRUPT		1
From the Editor's Desk		2
Trea\$ury Note\$		2
Secretary's NotePad		2
SYSOP's Twisted Pair		4
Special Deals and Buys		5
Articles:		
VOYAGER'S INCREDIBLE JOURNEY		6
HEAD STEPPING RATE FIX FOR LKDOS		8
DIRECTORY TO PRINTER (PDS DOC)		9
Classified Ads		9

C.A.T.U.G. CLUB OFFICERS

Here is the list of 1990 club officers and how to contact them. The club has two strong SIGS, SPECTRUM/TS2068 and QL. If you have questions about either of these fine machines or even the ZX81/TS1000/TS1500 call one of the officers. C=312, S=708.

POSITION	NAME	PHONE	PRIMARY FUNCTION
President	Butch Weinberg	C373-2470	The buck stops here...
Vice-President	Bob Swoger	S576-8068	Newsletter, BBS, etc.
Secretary	John Donaldson	S232-6147	Records and Reporting
Treasurer	Al Feng	S971-0495	Dues and Purchasing

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NITE-TIMES Information

The Nite-Times News is the newsletter of the Chicago Area Timex Users Group. For an annual fee of \$10.00 you can become a CATUG member with full membership privileges. Send your dues to :

CATUG Treasure Al Feng
15 Wake Robin Ct.
Woodridge, IL 60517

The Chicago Area Timex Users Group is pleased to exchange newsletters with other Timex and Sinclair supporting users groups at no charge. If you desire to reprint any articles that appear here, please provide credit to the author and this newsletter.

We encourage your user group to copy this newsletter and distribute it at your regular meetings to your members free of any charge as we believe that this will encourage better meeting attendance. If you are a user group that feels as we do, please let us know in your newsletter so that we might do this for our members and keep our attendance up.

Articles originating from our group can be had on tape or LarKen Disk for use in Magazines by contacting the editor. As this newsletter can be downloaded from our BBS you may reprint it using this means.

NITE-TIMES CONTRIBUTIONS

If you would like to contribute an ARTICLE to the newsletter upload a file into your CATUG PDP 11/60 account called NITETIMES.ART If you have an AD for the newsletter put a file in your account called COMPUTER.ADS If you have NEWS to POST about your group, place a file in your account called POST.NWS

These files are gathered by the BBS computer and downloaded to the editor. If you don't have a CATUG account either get one or

contact the editor by mail, in person, or by phone:

NITE-TIMES NEWS EDITOR
Bob Swoger
613 Parkside Circle
Streamwood, IL 60107

It is preferred that you call:
H708/837-7957 or W708/576-8068

CONTRIBUTORS TO THIS ISSUE

Sharon Begley
Mary Hager
Butch Weinberg
Al Feng
John Donaldson
Bob Swoger, K9WVY

CLUB MEETINGS

The Chicago Area Timex Users Group meets on the second Saturday of each month at the home of our meeting coordinator Steve Cooper in Downers Grove, Illinois from 1:00 to 5:00 PM. Steve's home is lovingly called the CLUB HOUSE and is located at 1300 Maple Street in Downers Grove just 2 blocks southwest of the Downers Grove Public Library. Steve can be contacted evenings at 708/968-3553.

When visiting be careful of the Dutch Doooooooooooooooooooo.....

DATA INTERRUPT

!! SINCLAIR SURVIVALISTS !!
!! STAND UP AND BE COUNTED !!

Commit yourself to COME to the SMUG SINCLAIR COMPUTER EXPO !! Lets show SMUG that we back their efforts. We at the CATUG will have a table (if there is one left) and will staff it on Saturday for sure. We plan to have at least 9 of our 22 members present. We will get our ticket money in soon so that we will be 'counted' and hope this will encourage SMUG for the effort they are putting forward on our behalf.

Hope you others will let the SMUG know of your intentions so that the SMUG can tell us all how it is going.

FROM THE EDITOR'S DESK

I see in two newsletters that POKES were taken at Mister David Hartman for his endeavor to regain lost funds. Now for my 2 cents. Mister Tim Woods is not all that innocent in this matter. Tim not only quit sending me TDM after August of 1988, he then, in 1989, took another years subscription fee from my credit card. Perhaps Mr. Woods did this also to David Hartman and that is why David has gone after Tim "with such a vengeance". I felt the same way, David.

We at the CATUG gave our names to Tim after his alleged data base accident and have received nothing, while I read that some have received three more issues! We feel miffed! I too would like to get my issues, it is a fine publication. Tim could start putting out material again and all his old followers, I am sure, would be glad to get what ever they could get. I know that all Timex/Sinclair survivalists are hungry to get what ever new stuff they can get, I hear that first hand. Tim was a top notch magazine editor before this event and I am sure he could be a champion again, we would give him the chance. If Tim says he is not getting articles, just show me one more issue and we will start sending material in again.

David has not been the scoundrel, I side with him and that is enough said.

And now, congratulations to Jeff Moore and the gang at SyncWare News/Quantum Levels for "going out in style!" We will miss you and will look forward to meeting you all in person one day, maybe at the SMUG FEST.

Bob Swoger, Editor
Chicago Area Timex Users Group

LAST CALL!!!!
PLEASE SEND ALL
FUTURE
NEWSLETTERS
TO OUR NEW
LIBRARIAN
AT THE ADDRESS
GIVEN BELOW:

It is:

CATUG - C/O Bob Swoger
613 Parkside Circle
Streamwood, IL 60107

Thank you!

TREASURY NOTES

After our last mailing expense of \$44.99 and other expenses our balance stands at \$320.00. Our current paid membership stands at 22.

Al Feng, Treasurer
Chicago Area Timex Users Group

SECRETARY'S NOTEPAD

December 9, 1989

Meeting opened by the president at 1:46PM. Those present: Messrs. Brezina, Cooper, Donaldson, Mills, Pashtoon, Sauter, Swoger, and Weinberg.

Kudos went to Bill Jones, editor of Update magazine for his facility in editing columns on ZX81/TS1000, TS2068, and QL. It is probably the best buy on the market and while many of our members subscribe, we'd like to reach 100 percent support.

We send 34 copies of each issue of our newsletter to other user groups. Through reciprocal agreements, we were able to scan 14 other groups' newsletters at this meeting. (A lot of meat there!) But there could be more. Where are the return copies from the rest of the groups?

Joyce Blaho, who takes care of newsletter exchanges for Boston Computer Society's Timex/Sinclair SIG, talked to Bob Swoger by phone. She has done

a survey of newsletters she receives which shows that coverage for TS1000 is 20%; for TS2068, it's 42%; for QL, 23%; and for Z88, it's 10%, and electronic copy is 39% of the operation. She notes that a good percentage of the N/Ls simply copy from each other and produce little new information. In only a few cases can the author be found at work in the user group. Bob hears constant complaints from editors that there's not enough work being submitted and they (the editors) feel they must try to fill up the empty space. Bob believes that's because the newsletter in question comes out 12 times a year rather than bimonthly or quarterly. He hopes Joyce can convey this idea to them.

He told her, too, that as of about 1986, you started your second cycle of people. The people from 1982 to 1988 were one cycle and from 1986 to now is another cycle and they don't have any of the software from the first cycle. They should start printing some of the software over again.

Another idea was that each newsletter should regularly publish a list of names and addresses of newsletters received from other user groups. If this is done, we may learn of as-yet-unknown groups who may wish to exchange information.

Swoger speaks about being in a "fix-up mode" and a version of Tasword he's equipped with a full screen menu which gives all the LarKen commands as well as all the old Tasword commands. Weinberg asked if he could get Larry Kenny's disk parameters because he has a program that may be able to write to (or read from) LarKen disks - once they are formatted on the LarKen system.

On our bulletin board, there is now a download menu which tells you precisely what you've got to pull off, whether it's the Doc or BASIC or the machine

code, the start or stop address or the length of the machine code, so it's a cinch to download anything from the board. We now have a message base and amateur radio section. We're getting about 35 logins into our guest account per month from other groups.

How would you like a TS2068 system including the computer, an AERCO interface, a modem, a TS2040 printer, "and all the tapes and papers that go with it" for \$125? Write with your offer to Bob Swoger, 613 Parkside Circle, Streamwood, IL 60107.

Speaking about TS2068 leads to tape loading problems some people have. If that's you, try relocating the tape recorder from the right of the computer to the left side. It could make a difference!

Nazir announced that there was a report in this morning's Computer Chronicles that Sir Clive Sinclair has introduced a PC-compatible weighing 3 lbs., with 3-1/2 in. disk drive and 20 MB hard disk. Price was not available.

Before he left England, Derek Ashton, a friend of Swoger's, wrote a 747 Flight Simulator program for the TS2068 which never became commercial. The plane flies all over England to 7 different airfields in real time. If you're interested in it, write Bob Swoger at the address above with suggestions on a fair method of repaying Derek for a monumental amount of work. CATUG has seen a demonstration of the program and feels that this type of effort should be encouraged. What do you think? Is Fairware the answer? Let Bob know.

The business meeting was adjourned at 2:58PM. Demos followed on the Spectrum lightpen and a TS2068 blackjack game.

January 13, 1990

Meeting was called to order at 2:00PM. Members attending were Messrs. Brezina, Cooper, Donaldson, Feng, Lessenberry, Mills, Pagano, Pashtoon, Swoger, Ulreich, and Weinberg.

Elections were held, the winners being Butch Weinberg, President; Bob Swoger, Vice President; Al Feng, Treasurer; John Donaldson, Secretary.

January is the meeting when annual dues of \$10 are paid. At the opening of this meeting, our treasury stood at \$194.24 according to Mr. Feng. With this good report, there was some discussion about buying - or not buying - a color monitor for the group's use. RGB vs composite preferences were voiced plus one vote for monochrome. There was no resolution except that Gary Lessenberry would put a "wanted" item on the BBS for a 13" RGB/composite, 80 column green button monitor for \$100-\$125 OR a color composite monitor for less OR a monochrome monitor for much less. If the price is right, further discussion will take place.

One of the things that keeps members coming to our meetings is that, where permission has been given, copies of other group newsletters are available for take home reading. But there are rules: Absentees don't get them. You must come to meetings to pick them up. We urge other groups to try this. It's a great incentive!

Alex Burr, a guest of Bob Swoger, came from Las Cruces, New Mexico to visit. He is the editor of QZX, a newsletter for the use of Sinclair computers in amateur radio. Circulation runs about 100. (This is down from a peak of 300!) It may be the oldest Sinclair publication still in existence. Articles must have something to do with electronics or communications. The newsletter is monthly and subscription is \$15 per year. There are no meetings of his

group because everyone is spread out across the country.

Mr. Burr's reason for being in Illinois is due to a temporary position with Argonne National Laboratory. The International Atomic Energy Agency is running a short course with students from 19 countries and he is teaching part of that course. At home, he teaches physics.

The amateur community uses the Sinclair to automatically send and receive CW (Morse code, to some) and in packet radio. Some of the programs keep up with radio logs and QSL cards. In fact, the QSL cards which are mailed to listeners who report such things as signal strength, etc., are now produced on computer printers. The main use of our favorite computers is as terminals in packet radio where it can act as a bulletin board of the air. He says it's possible to have as many as 10 people talking to each other at once. Look, Ma, no modems!

Donaldson showed a 3 minute segment of Discovery Cable's "Beyond 2000" TV program highlighting Sir Clive and some of his creations. It wasn't too flattering but it did let us see and hear this genius!

Meeting was closed at 3:00PM.

John Donaldson, Secretary
Chicago Area Timex Users Group

SYSOP'S TWISTED PAIR

It is time once again to inform you all how to log in to the club BBS. Since our computer now hosts four organizations instead of just one, more folks will benefit from this dissertation.

First, set up your terminal program for 1200 baud or less and 8-N-1 protocol.

Second, call 708-576-7072 and hit your ENTER key until you get the > prompt. Then type:

LOG CATUG/GUEST

or

LOG SNUG/GUEST

From this point on, the BBS program picks up and you peruse the BBS in tree climbing fashion, that is, you go up one branch then down again before going up another branch from the main bulletin board.

To go up a branch choose a number from 1 to 9 on a board. To climb back down either choose 0 or just hit ENTER with no selection.

If you fall out of the BBS for some reason, you can get back in again by typing @BBS.

The biggest problem you will have is the mail mode (don't blame me, I did not write this utility). This is because you, like everyone else, do not READ! The utility always reminds you to terminate the letter> prompt, the to who? prompt and the reply> prompt with CONTROL Z but no one seems to read that. To terminate the different functions of mail you must sent CONTROL Z ! REMEMBER THIS! CONTROL Z ! When the mail utility asks you "To who?" it is looking to get from you the last name of the person you wish to send your mail to. It will keep asking "to who?" so that you may send your mail to dozens of people. If you don't wish to send you mail to dozens of people, CONTROL Z!

If after reading your mail you see a "reply>" prompt, the utility is asking you for text strings to send back to the sender. It will keep taking strings of text and giving you the "reply>" prompt until you send CONTROL Z!

If you hang-up on mail in either the send or receive mode, the machine will crash and will not come up again until the morning of the following work day.

I hope this will help you

understand the problem. We will cover the fine points of MAIL in the next issue.

To leave the BBS, just hit ENTER at all the "ENTER your selection>" prompts and the system will drop back to the EXECUTIVE level giving you the > prompt. At this point type BYE and only after the machine tells you that you are logged off, hang-up the phone or you will be connected with the machine until you do hang-up. My friend Dan Turkisher in Kansas City found this out after he got is over \$100 phone bill after being connected over night.

!!! R E M E M B E R !!!

We now have a 24 hour BBS and encourage you to exchange mail and contribute to the Download Section. Use it and have fun!

* C A T U G B B S *
* 708/576-7072 *
* Type at the > prompt: *
* LOG SINCLAIR/GUEST *
* BYE to log out *

Bob Swoger, SYSOP
Chicago Area Timex Users Group

ITEMS FOR SALE THROUGH THE CLUB

See Bob Swoger for PROMS.

SPECIAL DEALS AND BUYS

CLUB POLICY

REGARDING SPECIAL PURCHASES

Each special buy will have a CHAIRMAN who will coordinate ALL ACTIVITY regarding a purchase. The CHAIRMAN will publicize the special buy through the newsletter and at the CATUG meetings. All inter-action will go through the CHAIRMAN and all checks will be sent to him, payable to the CHAIRMAN.

When the purchased goods arrive, the CHAIRMAN will see that they are distributed. All special buys must be PAID IN ADVANCE because the CATUG does

not have enough funds to handle all of the buys without cash flow problems. So you MUST SEND A CHECK TO THE CHAIRMAN BEFORE THE DEADLINE or you will not be included in the special buy. The CHAIRMAN will contact the members on his interest list regarding deadlines and purchase price or alternately, it will appear in the NITE-TIMES newsletter.

Bob Swoger is the chairman for the following:

256K RAM-DISK KIT for T/S 2068

LarKen RAM-Disk Operating system board built and tested, 256K RAM-DISK board with connectors only, no IC's. The Disk Drive controller board can be added later to control up to 4 more double sided drives. Battery back-up, all system software.

**** \$88.00 postage paid. ***
Contact the chairman for more details. There is no Qty. buy necessary. 708/576-8068

ARTICLES

VOYAGER'S INCREDIBLE JOURNEY
With
The LITTLE COMPUTER that COULD
by
Sharon Begley
and
Mary Hager
Condensed from NEWSWEEK
by
READER'S DIGEST

With nothing but a radio transmitter to herald its arrival, a gawky aluminum bird swooped over the north pole of the planet Neptune last August. Streaking through the remote reaches of the solar system, the unmanned spacecraft Voyager 2 sent stunning photos and data 2.8 billion miles to the Jet Propulsion Laboratory (JPL) in Pasadena, Calif., where astronomers eagerly awaited an encounter with the blue planet. Its main mission completed, Voyager turned Neptune's gravitational force into a celestial slingshot and sped

toward a rendezvous with infinity.

For 12 years Voyager 2 has soared through the solar system, sending back spectacular photos of Jupiter, Saturn, Uranus and Neptune, along with more than five trillion bits of scientific data.

Voyager 2 has proved to be the most successful space probe ever launched. Yet when the 1819-pound craft rocketed from Cape Canaveral on August 20, 1977, and pointed itself toward its place in history, the trip was one heart-stopper after another. A radio receiver malfunctioned, and then the backup became tone deaf, unable to lock onto a particular frequency. Controllers had to predict what Voyager could hear on the basis of the spacecraft's temperature, distance and motion. After the Jupiter flyby, a silicon chip failed, wiping out three percent of the computer's memory. At Saturn, the scan platform that holds the cameras and other instruments jammed; but the lubricant seeped back into the gears in time for the meeting with Uranus. Somehow the geriatric Voyager 2, arthritic and partially deaf, managed to reach Neptune.

Steering Voyager within 3000 miles of the planet's cloud tops, at 61148 m.p.h., required some of the most complicated engineering NASA has ever undertaken. For years flight jockeys at JPL, where the craft was designed and built, had fine tuned its trajectory. When Voyager finally reached Neptune, it was just 21 miles wide of where the scientists expected it to be - the cosmic equivalent of sinking a 2260 mile putt. "Not bad shooting," said project manager Norman Haynes.

Over the years, NASA's computer aces had radioed up so many improvements to the on-board computer that the craft had essentially received a long-

distance brain transplant many times. [This was only possible because the 1977 vintage 8 bit "Little Computer that Could" had only 64K of addressable memory. Program managers stated that had the craft contained today's higher tech 16 or 32 bit processors, with all the RAM that they can address, their programmers would have had an even more monumental task for, as programmers are given more space to write in, they feel compelled to use as much of it as they possibly can!]

As Voyager closed in on Neptune, JPL engineers worked round the clock to radio instructions. But they did not know the exact location of the debris encircling the planet. Since it takes over four hours for signals to travel between Earth and Neptune, there was no chance for last-minute fixes: a collision could have doomed the mission. Fortunately, Voyager managed to avoid the orbiting junk.

The data arrived on a radio signal so weak - a ten quadrillionth of a watt - that 38 giant radio antennas on four continents were used to catch Voyager's whispered message. And what a message it was. Neptune turned out to be a dynamic, stormy world. Cloaked in a thick haze of hydrogen and helium, the planet is streaked by 1500 m.p.h. winds that push clouds of frozen methane. A tremendous storm system, a countercyclone as big across as Earth and christened the Great Dark Spot, marks the southern hemisphere.

Voyager's view of Neptune was almost upstaged by the planet's largest moon, Triton, called the most curious thing we've ever seen" by Voyager geologist Laurence Soderblom. Already known as an astronomical renegade because it is the only large moon in the solar system whose orbit is in the opposite direction of its parent planet's rotation, Triton showed a face mottled like the finest Italian pink marble.

Triton seemed to have a history like ice cream carried home in August: frozen, melted, then frozen again. Perhaps it once was a planet, only to be drawn out of its solar orbit by Neptune's gravitational embrace. [Voyager 2 found signs of icy volcanism and rough patches perhaps caused by Triton's Quakes. It found six previously unknown moons around Blue Neptune bringing the known total to eight. The spacecraft also discovered at least four rings around the planet. Said Voyager geologist Laurence Soderblom: "What a way to leave the solar system!"]

The new finds came so quickly that trying to make sense of them all was like trying to drink from a fire hose. The solar system's violent history is nowhere more evident than in the rings and moons Voyager kept discovering, first around Jupiter and Saturn, then Uranus and Neptune. "Voyager focused our attention on the importance of collisions," says chief project scientist Edward Stone. Each cosmic crash, a potent sculptor of the solar system, would produce a different kind of ring, ranging from the luminous bands around Saturn to the 11 narrow, sharply bounded rings of Uranus.

The primary mission now completed, Voyager 2's cameras, infrared detector and photopolarimeter will be turned off later this year. The electricity conserved will power instruments that will measure the exotic fields and subatomic particles littering the route to interstellar space. By 2020, Voyager 2 will probably fall silent, its generators too feeble to power communications. In the year 40,176 it should come within 1.7 light years of the star Ross 248, a cool, red speck of twinkling gas. In the year 296,036, Voyager 2 will pass within 4.3 light of Sirius.

The chances are small, but one of these stars might have a planet with beings intelligent

enough to detect the tiny, silent wanderer. If they retrieve Voyager, they will find, mounted on its side, a gold plated copper disc, complete with stylus and cartridge. If they figure out how to play it, they will hear greetings in 60 Earth languages and one whale dialect, as well as the natural sounds of the planet - thunder clapping, frogs croaking and a newborn baby crying.

If the craft encounters no one, it will float forever through the Milky Way, an emissary of the curious earthlings who launched it, hoping to make their mark in the vastness of cosmic time.

[I hope this article makes you owners of 8 bit machines a bit more reluctant to part with your trusty companions.]

STEPPING RATE FIX

by

Bob Swoger and Larry Kenny

The May 1989 issue of Capital District T/S Computer Club's newsletter told of two members using TS2068's with LarKen DOS having trouble reading each other's disks. It seemed that Fred Lewis could read John Warrens disks but John could not read Fred's disks. This sounded familiar to me as I once had trouble reading disks that came from Rod Gowen and Larry Kenny.

The problem I had was head stepping rate. The drives I use have a 30ms stepping rate. This means that to move from track 0 (the directory track) to track 40 requires 1.2 seconds. A 6 ms stepping rate requires only 240ms. What the controller chip does is wait a period of time to begin reading or writing the disk to give the head time to get to the desired track! The information for the stepping rate is placed in track 0 when the disk is FORMATED.

There is no problem reading the directory track because the

head starts there, but the head on John's drive is not yet over the correct track when the controller tries for the read. For this reason John Warren could not read Fred Lewis's disks. Fred either has a newer controller chip or has drives with a 6 ms stepping rate and FORMATED his disks accordingly.

I could not read the SYSTEM disk that Larry Kenny sent me. Larry had not run into the slower drives up to that point. Mine are DEC dual drive units using TEAC drives purchased in the early 80's as a group buy and are so reliable I just won't give them up.

Larry was sure he had the answer when I phoned him and to get me started back in February of 1988, he sent a program to the club BBS at 2 AM while I slept to fix his disks so that I might read them. I tried it and it worked! I re-wrote it and called it STEPRT.B1 The stepping rate information is in track 0 and his program fixes the disk to the 30 ms stepping rate.

Now about controller chips, Larry stated that he started using the new Western Digital chips that could only select 6 ms or faster head stepping mechanisms. I told him, each time I ordered, to send me only the old WDC WD1770 controller chip in units he built for me and my friends as over 200 of these TEAC units are in the area and we all want to be compatible.

When passing around disks for the LarKen disk operating system be sure they are formatted single side 40 track with a 30 ms head stepping rate so we all can read them.

To read unreadable disks, just load in the program below, it will autorun. After removing the write protect label from the faulty disk, place it into DRIVE 0 and press <ENTER>. You will be able to read it from then on. I have tested it on LARKEN and RMG disks.

10 REM STEP RATE CHANGER BY
LARRY KENNY and BOB SWOGER V1.0
30 CLS : PRINT AT 0,0;"This
program fixes the head step rate
problem with disks formatted for
other than 30 ms. Remove the
protection label and place the
disk to be repaired into DRIVE 0
and press enter."

40 REM The '3' in the machine
code is for 30 ms.
50 INPUT LINE p\$
60 CLEAR 39999
70 RANDOMIZE USR 100: OPEN
#4,"
dd"
80 PRINT #4: GO TO 0
90 RESTORE 150
110 FOR A=40000 TO 40030
120 READ B: POKE A,B
130 NEXT A
150 DATA 243,205,98,0,175,50,29
,32,205,126,0,205,123,0,62,3,50,
134,32,205,120,0,58,100,0,251,20
1,0,0,0,0
250 RANDOMIZE USR 40000
260 GO TO 9989
360 FOR B=40000 TO 42000: PRINT
PEEK B;"",": NEXT B
9989 PRINT #4: GO TO 4
9992 RANDOMIZE USR 100: SAVE "ST
EPRT.B1" LINE 1
9998 RANDOMIZE USR 100: LOAD "L.
B1"

DIRECTORY TO PRINTER

PDS DOC
by
Butch Weinberg

Well, as promised, here is some
information on my "pri_dir"
program in the CATUG Public
Domain library.

"Pri_dir" is a simple utility
written in QL SuperBASIC that
allows you to send a directory
of the contents your disks
directly to your printer. It is
for people like me who are lazy
or who can't type and want to
have printed directories of
their magnetic storage.

```
10 OPEN#3, ser1
20 DIR#3: flp2_
25 PRINT#3
30 PRINT#0;'MORE?'
40 more$=INKEY$(-1)
50 IF more$='y' OR more$='Y'
   THEN GO TO 20 :ELSE
60 PRINT#3, CHR$(12);:
   CLOSE#3: STOP
```

If you wish to make directories
from one of your microdrives,
then change the device name in
'Line 20' to "mdv1_" or "mdv2_"
as appropriate. Of course, you
could add a PROCEDURE which
allows for more convenient
storage device selection.

Feel free to further alter it,
but don't sell it!

Next time: 'Menue'.

CLASSIFIED ADS

To put an AD in the Computer
related section of the BBS, put
a file in your account with the
filename.filetype: COMPUTER.ADS
!!! Our ADS are free !!!

AD BY: ???? ON 900313

Commodore 64 w/DISK DRIVE,
MONITOR, MODEM, 20 MANUALS,
GEOS OPERATING SYSTEM. 20 GAMES
(ALL ORIGINAL DISKS & MANUALS)
.....\$450 OBO
CALL 708-213-3863 AFTER 6PM

AD BY: RICH ON 900313

64K COCO W/FLOPPY DISK DRIVE,
DMP-105 PRINTER, JOYSTICKS,
SCRIPSIT, FLIPSIDE SOFTWARE
CALL RICH 708-543-0335 AFTR 7PM

AD BY: AL MAHANNA ON 900222

40 MB HARD DRIVE
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BEST OFFER
CALL AL MAHANNA H708/259-8349
H708/392-2982 or W708/576-4515

AD BY: JIM PEULECKE ON 880205

TANDY MODEL 100 PORTABLE
COMES WITH BASIC AND THREE
APPLICATION PROGRAMS BUILT IN.
EXTRAS INCLUDE 32K OF RAM,
PROTECTIVE 'SKIN' OVER FRONT,
SOFT CASE, HARD CASE, AND OF
COURSE, BUILT-IN MODEM.
!!! LIKE - NEW CONDITION !!!
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W815-744-1545 or H815-886-4648

AD BY: BOB SWOGER ON 880216

MF-100 384K MULTIFUNCTION CARD
& MFPLUS for IBM PC-XT or Clone
Includes: RAMDISK, RAM HELP,
DISKCONF, PSPOOL, PSPLHELP,
PSPL CONF, CLOCK-CALENDER.
BOTH FOR\$100 or Best
BOB SWOGER W708-576-4410 or
H708-837-7957

FOR SALE JAN-89

Color Computer 2 with 64K,
Extended BASIC, dual disk
drives with independent power
supplies, Multipak, J&M
controller with RS1.0,1.1, and
JDOS. Also Digisector DS69A
video digitizer, joysticks, HAM
Radio FAX, Slow scan and RTTY
software, more. All like new,
less than 1 year old. \$500.00
complete. Contact Don Froula at
632-2788 (days).

FOR SALE DEC-88

Televideo 610 Communications
Terminal; CRT excellent,
manual, box, and works...\$75.00
CALL Ray DuBiel X65862.

LEADING EDGE GREEN SCRIN MONITOR

GREEN SCREEN 13" MONITOR HAS
LESS THAN 100 HOURS. PURCHASED
1987 IBM TTL DB-9 CONNECTOR.
CONTACT: BRUCE EASTMOND
W708/576-2112 H 708/969-6603
C L E A N ! \$40

FOR SALE: NOV-88

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To : ALL
From : LARRY MOORE
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HEATHKIT SB100 100W TRANSCEIVER
W/POWER SUPPLY, MANUAL, CW KEYS
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Location

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There will be a **SNUG** meeting Saturday Night June 2, 1990

Ticket Information:

	<u>in advance</u>	<u>at the door</u>	
One day	: \$ 4.00	\$ 5.00	
Both days	: \$ 7.00	\$ 9.00	
Banquet	: \$16.00	\$16.00	Limited seating
Table	: \$25.00 (incl. 2 day badge)	\$25.00	Limited table space

Tables are 6 feet by 30 inches

For **MORE INFORMATION** contact

Bill Heberlein

Neal Schultz

5052 N. 91st Street

or

call 7 - 10pm

Milwaukee, WI 53225

(414) 353-4522

for **RESERVATIONS** mail to:

Expo Reservations

P.O. Box 101

Butler, WI 53007



Detach and Mail

Name _____ Phone (____) _____

Address _____

City _____ State _____ Zip _____

Please reserve _____ one day badge @ \$ 4.00 each = \$ _____

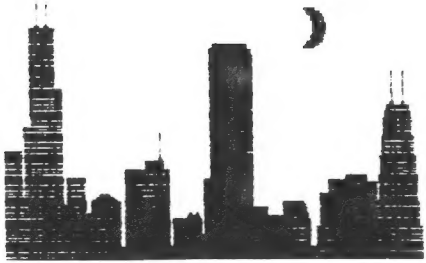
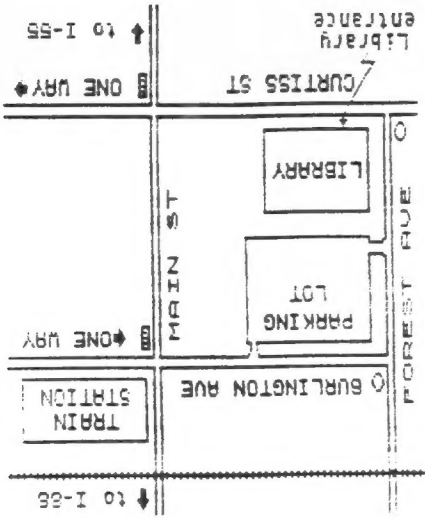
Please reserve _____ two day badges @ \$ 7.00 each = \$ _____

Please reserve _____ Banquet tickets @ \$16.00 each = \$ _____

Please reserve _____ 6' x 30" tables @ \$25.00 each = \$ _____

I have included a check/money order for total = \$ _____

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